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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,420	09/19/2006	Koji Sato	296238US0PCT	1238
22850	7590	08/02/2007		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER ZUCKER, PAUL A	
			ART UNIT 1621	PAPER NUMBER
			NOTIFICATION DATE 08/02/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/593,420

Applicant(s)

SATO ET AL.

Examiner

Paul A. Zucker

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10,15 and 16 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 11-14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 12/11/06, 9/19/06.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application
- ☐ Other: ____.

DETAILED ACTION

Specification

1. The abstract of the disclosure is objected to because it consists of more than one paragraph and is too long. Correction is required. See MPEP § 608.01(b).
2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 5-7, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al (JP 06-157418 06-1994, Machine translation). Takahashi teaches (Machine translation, paragraph [0042]) a process for the reduction of t-butyl-1-chloro-2-fluorocyclopropane carboxylate with a borohydride reducing agent represented by formula (2) in the presence of dimethyl sulfoxide, an aprotic polar solvent to give a 13.5:1 *cis* to *trans* ratio. A Lewis acid with a sodium counterion is generated *in situ* upon transfer of the first hydride from the borohydride. Takahashi therefore anticipates claims 1, 2, 5-7, 15 and 16.

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Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
4. Claims 1, 2, 5-10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al (JP 06-157418 06-1994, Machine translation) in view of Hutchins et al (Journal of Organic Chemistry, Nucleophilic Borohydride: Selective Reductive Displacement of Halides, Sulfonate Esters, Tertiary Amines and N, N-Disulfonimides with Borohydride Reagents in Polar Aprotic Solvents, 1978, 43(11), page 2259-2267).

Instantly claimed is a process for producing a compound of formula (3) via the reduction of a compound of formula (1) with a borohydride reducing agent represented by formula (2) in the presence of an aprotic polar solvent and a Lewis acid.

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Takahashi teaches (Machine translation, paragraph [0042]) a process for the reduction of t-butyl-1-chloro-2-fluorocyclopropane carboxylate with a borohydride reducing agent represented by formula (2) in the presence of dimethyl sulfoxide, an aprotic polar solvent to give a 13.5:1 *cis* to *trans* ratio. A Lewis acid with a sodium counterion is generated *in situ* upon transfer of the first hydride from the borohydride.

The difference between the process taught by Takahashi and that instantly claimed is that Takahashi does not exemplify reaction in which a polar aprotic solvent other than DMSO or HMPA is employed while such is instantly claimed.

Hutchins, however, teaches (Page 2259, column 1, 2nd paragraph) the use of a DMF (dimethylformamide) as solvent in the dehalogenation of alkyl halides in the presence of borohydride.

One of ordinary skill in the art would therefore have been motivated by Hutchins teaching to substitute DMF for the DMSO employed by Takahashi. Based upon Hutchins teaching, there would have been a reasonable expectation for success.

The instantly claimed process would therefore have been obvious to one of ordinary skill in the art.

Claim Objections

5. Claims 3, 4 and 11-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
6. Claims 13-16 are objected to under 37 CFR 1.75(c) as being in improper form because they are multiple dependent claims which are dependent on other multiple dependent claims. See MPEP § 608.01(n).

Allowable Subject Matter

7. Claims 3, 4 and 11-12 are drawn to allowable subject matter. The following is a statement of reasons for the indication of allowable subject matter: Takahashi et al (JP 06-157418 06-1994, Machine translation) and Hutchins et al (Journal of Organic Chemistry, Nucleophilic Borohydride: Selective Reductive Displacement of Halides, Sulfonate Esters, Tertiary Amines and N, N-Disulfonimides with Borohydride Reagents in Polar Aprotic Solvents, 1978, 43(11), page 2259-2267), either alone or together, neither disclose nor fairly suggest the use of the instantly claimed solvent, Lewis acid or starting material structure.

Conclusion

8. Claims 1-16 are pending. Claims 1, 2, 5-10, 15 and 16 are rejected. Claims 3, 4 and 11-14 are objected to.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 571-272-0650. The examiner can normally be reached on Monday-Friday 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Evonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Paul A. Zucker
Primary Examiner
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